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FACILITIES



LANDIS , NORTH CAROLINA

STANDARD TITLE PAGE FOR TECHNICAL REPORTS		1. Report No.	2. Govt. Accession No.	3. Recipient's Catalog No.
4. Title and Subtitle Community Facilities Update, Town of Landis, North Carolina			5. Report Date June, 1975	6. Performing Organization Code
7. Author(s) Ted L. Allen			8. Performing Organization Rept. No.	
9. Performing Organization Name and Address N.C. DEPT. NATURAL & ECONOMIC RESOURCES DIVISION OF COMMUNITY SERVICES P.O. BOX 27687 - RALEIGH, N.C. 27611			10. Project/Task/Work Unit No.	11. Contract/Grant No. S325
12. Sponsoring Agency Name and Address N. C. Dept. of Natural & Economic Resources P. O. Box 27687 Raleigh, N. C. 27611			13. Type of Report & Period Covered Final	
14. Sponsoring Agency Code				
15. Supplementary Notes				
16. Abstracts The Community Facilities Update analyzes existing community facilities located in the Town of Landis and makes recommendations for improvements, expansion or replacement.				
17. Key Words and Document Analysis. (a). Descriptors				
17b. Identifiers/Open-Ended Terms Existing Facilities Future Needs Recommendations				
17c. COSATI Field/Group				
18. Distribution Statement Available from the Town Hall, Town of Landis, North Carolina			19. Security Class (This Report) UNCLASSIFIED	21. No. of Pages 68
			20. Security Class. (This Page) UNCLASSIFIED	22. Price

COMMUNITY FACILITIES UPDATE, LANDIS, NORTH CAROLINA

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The preparation of this report was financed in part through a comprehensive planning grant from the Department of Natural and Economic Resources of the State of North Carolina.



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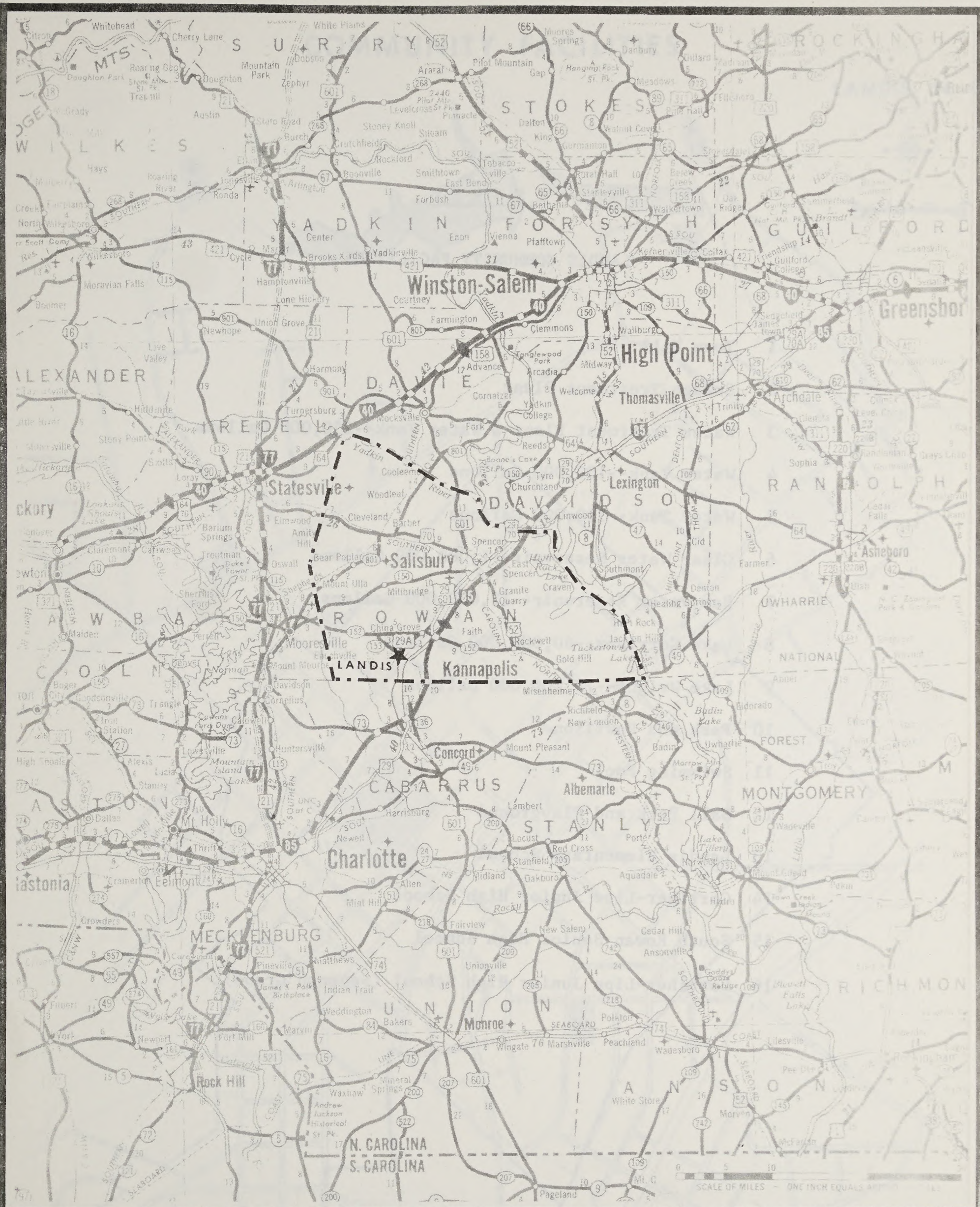
CHAPTER I

INTRODUCTION

The Town Board of Aldermen and the Landis Planning Board prepared a Community Facilities report in September of 1968. The report consisted of an analysis of population, an inventory of the Landis Municipal Building facilities, public safety, public works, public utilities, cultural facilities, and health facilities. Since 1968 there have been a number of improvements to the community facilities which have raised the quality of life for citizens within the Town of Landis.

The traditional time period for review of a community facilities report is five years. Five years have elapsed since the preparation of the Landis Community Facilities Report. This report represents an effort to update the information that was presented in the 1968 Community Facilities Report and to update sections where changes have occurred.

The purpose of this update remains the same as the purpose of the 1968 report; that is, (1) to survey the existing community facilities, (2) to outline current needs, (3) to identify projected needs, (4) to make recommendations concerning existing and projected needs, and (5) to provide a basic reference document for planning purposes.



REGIONAL SETTING

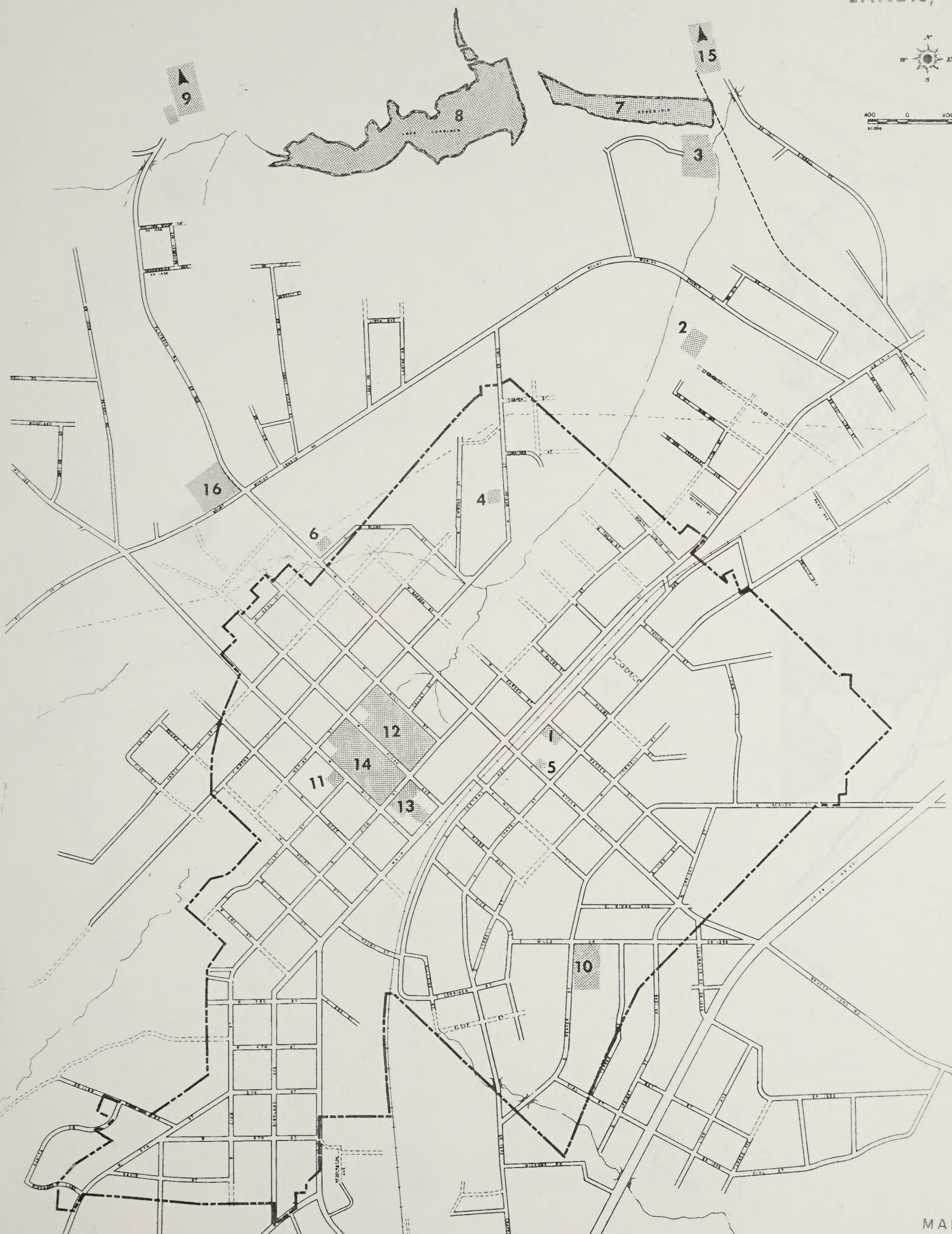
L E G E N D

LANDIS COMMUNITY FACILITIES

- 1 Town Hall
- 2 Sewage Treatment Plant
- 3 Water Treatment Plant & Water Tank--250,000 Gallons
- 4 Water Tank--100,000 Gallons
- 5 Water Tank--100,000 Gallons
- 6 Clear Water Reservoir--1,000,000 Gallons
- 7 Raw Water Reservoir--12,000,000 Gallons
- 8 Lake Corriher--60,000,000 Gallons
- 9 Lake Wright--70,000,000 Gallons
- 10 Park and Pavilion
- 11 Swimming Pool
- 12 Ball Park and Playground
- 13 Landis Elementary School
- 14 Corriher-Lipe Junior High School
- 15 South Rowan Senior High School
- 16 Corriher-Lipe Junior High School (Seventh Grade)

COMMUNITY FACILITIES

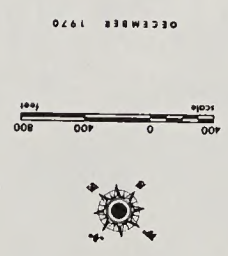
LANDIS, N. C.



EXISTING LAND USE

LANDS

NORTH CAROLINA



- LEGEND**
- RESIDENTIAL
 - SINGLE FAMILY
 - MULTI-FAMILY
 - TRAILER
 - RETAIL
 - WHOLESALE
 - PUBLIC
 - SEMI-PUBLIC
 - INDUSTRIAL
 - LIGHT
 - HEAVY





CHAPTER II

POPULATION

The population size, density, composition, and future projected population are primary factors in determining the present and future adequacy of community facilities' services. The community facilities operated by a town should reflect the needs of the community's population, but remain within the realm of the town's financial, physical and human resources.

For example, the number of people within a particular age category is important in determining future school enrollments, particularly the adequacy of the school to handle an increase. As population changes, school administrators must be kept abreast of these changes so the educational facilities can be maintained at a level equal to the load placed on them. In order to maintain an effective level of service, population changes which have an effect on community facilities must be anticipated.

Tables 1 and 2, Population and Population Density, have been updated and projections have been made by the township. Graph 1 reveals population projections for Landis in relation to other towns in Rowan County. Table 3 is a representation of the 1970 census computation of population characteristics for the Town of Landis.

Projecting population growth is a difficult task and it must be remembered that there are many variables which can make long run population projections inaccurate. Some of these include: annexations, changes in life styles, and economic fluctuations. Despite the short comings of population projecting, it is nevertheless necessary to make estimates of future population in order to plan for the services and facilities which will be required in order to accommodate changes.

It is impossible to determine the exact population of Landis or China Grove Township for the next 20 years; however, it is safe to assume, based on the available information, that this area will experience an increase in population. It is the responsibility of the Town of Landis and Rowan County to respond to the increased population by providing the necessary public services and facilities to accommodate the population.

POPULATION TRENDS AND PROJECTIONS
TABLE 1 BY TOWNSHIP AND COUNTY

Year	China Grove Township	Rowan County
1950	17,690	75,410
1960	19,172	82,817
1970	20,530	90,035
1980	21,787	97,560
1990	23,066	105,583
Percent increase:		Percent increase:
1950 to 1970 = 16.1%		1950 to 1970 = 19.4%
1970 to 1990 = 12.4%		1970 to 1990 = 17.3%

POPULATION DENSITY BY COUNTY AND TOWNSHIP
TABLE 2 1950 to 1990

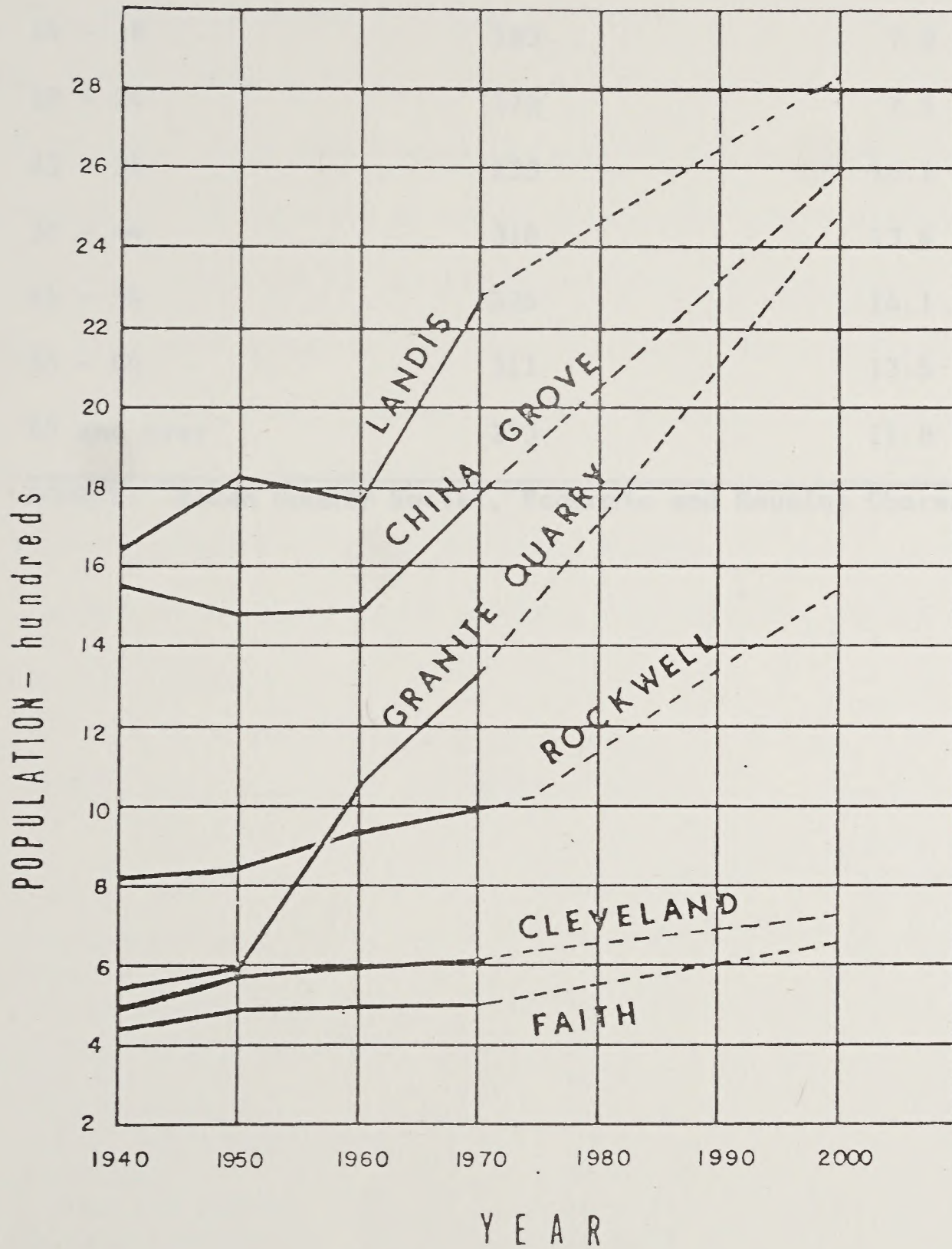
	China Grove	Rowan County
Area in square miles	35.1	517.0
1950 population	17,690	75,410
Population density	504.0	145.9
Percent of total Rowan County population	23.4	100.0
Area in square miles	35.1	517.0
1970 population	20,530	90,035
Population density	584.9	174.1
Percent of total Rowan County population	22.8	100.0
Area in square miles	35.1	517.0
1990 population	23,066	105,583
Population density	657.2	204.2
Percent of total Rowan County population	21.8	100.0

SOURCE: Rowan County Social, Economic and Housing Characteristics

POPULATION TREND

LANDIS

NORTH CAROLINA



POPULATION CHARACTERISTICS
AGE, SEX AND RACE
TOWN OF LANDIS

TABLE 3

<u>Age Grouping</u>	<u>Number</u>	<u>Percent of Total Population</u>
Under 6	187	8.1
6 - 13	313	13.6
14 - 18	183	7.9
19 - 24	172	7.5
25 - 34	233	10.1
35 - 44	310	13.4
45 - 54	325	14.1
55 - 64	311	13.5
65 and over	273	11.8

SOURCE: Rowan County Social, Economic and Housing Characteristics

CHAPTER III

LANDIS MUNICIPAL BUILDING

Town Hall functions not only as a community facility for housing the town administrative offices, but also as a focal point of interest and activity for town residents.

The Landis Municipal Building is located at the intersection of Central Avenue and East Garden Street. The principal part of the structure was built in 1963. This area houses the mayor's office, town clerk's office, the office of the director of public works, the police station, fire station, a conference room, and the municipal library. During 1967 a warehouse and storage area were added for the town vehicles. The Municipal Building is in excellent condition; however, there is no room for expansion of existing departments within the building. Land adjacent to the Municipal Building for exterior expansion is not available either.

Table 4 is a breakdown of existing uses and size of use within the Municipal Building.

TABLE 4 SPACE UTILIZATION
OF MUNICIPAL BUILDING

<u>Room</u>	<u>Size in Feet</u>	<u>Area in Square Feet</u>
Conference room	18 x 14	252
Mayor's office	14 x 10	140
Police headquarters	15 x 12	180
Power, water, tax dept.	24 x 15	360
Library	40 x 20	800
Fire station	42 x 34	1,428
Toilet and shower room	12 x 10	120
Warehouse	60 x 40	2,400
Locker and toilet	16 x 16	256
Covered parking	60 x 32	1,380
Storage room (vault)	41 x 27	571

The Rowan Citizens for Better Libraries recently received a recommendation from a library consultant (Hoyt Galvin Assoc.) on branch library needs. One of the recommendations emphasized that the South Rowan County area needed a central location to serve both Landis and China Grove. The implementation of this proposal would allow an 800 square foot area within the existing municipal building for expansion.

A new warehouse and storage area is being constructed which will allow more space for departmental expansion.

Parking space for the municipal building is adequate at present. There are eleven (11) spaces directly in front of the municipal building and eight (8) spaces on East Garden Street to the side of the municipal building.

Recommendations

- (1) The power, water, tax, storage room and vault space is in need of being enlarged. One solution to providing increased office space is to:
 - (a) Enlarge the power, water, tax, storage room and vault area by removing the wall between this office area and the mayor's office. Also, convert part of the conference room to the mayor's office and use the remainder for the power, water and tax office.
 - (b) Move the conference room to the library, when a more suitable location is found for a branch library. This would provide 548 additional square feet that could be used for seating an audience.
- (2) Provide additional space to house the new fire truck and to retire the old LaFrance. The warehouse area which is used for storage of town equipment at present could be reallocated for use by the fire department when the new warehouse is completed.

- (3) When considering future administrative space, give consideration to adding a second floor to the existing municipal building instead of contending with inflated property values.
- (4) Adopt a replacement policy on the vehicles used by town administrative officials.

CHAPTER IV

PUBLIC SAFETY

Police Department

The Landis Police Department is situated within a 180 square foot area of the Landis Municipal Building at the corner of Central Street and East Garden Street. The space reserved for the police department is adequate and the condition of the space is excellent. There are no detention facilities available in Landis; however, the North Kannapolis Police Station, approximately three miles south of Landis, provides such facilities.

The Landis Police Department is currently staffed by three full-time policemen--one chief and two patrolmen. The personnel attend training classes periodically and are briefed on the latest techniques such as coping with the drinking driver, basic police science, dealing with drug problems, and investigation.

The departmental equipment includes a 1972 Dodge and a 1973 Ford. The 1972 Dodge is being replaced, and replacement of the 1973 Ford is planned for FY 1976-77. Other equipment includes: two mobile units, two walkie-talkies, one base station radio, and full riot equipment for three officers.

The Landis Police Department has a mutual assistance agreement program with other local, county and state law enforcement agencies--the Rowan County Deputy Sheriff stationed two miles north of Landis in China Grove, the North Kannapolis police force three miles south of Landis, and the North Carolina State Highway Patrol approximately six miles north of Landis.

Table 5 indicates the projected personnel and equipment needs of the Landis Police Department from 1975 to the year 2000.

PERSONNEL AND EQUIPMENT NEEDS OF POLICE DEPARTMENT
 TABLE 5 LANDIS, NORTH CAROLINA

Present population - 2,297

Motor Equipment

Police cars - 3

Special Motor Equipment - 0

Communications Equipment:

Base radio - 1

Car radios - 3

Walkie-talkies - 3

Personnel

Regular police - 4.6

Auxiliary police - 2.0

Civilian employees - 0

1980 population - 2,500

Motor Equipment

Police cars - 3

Special Motor Equipment - 0

Communication Equipment:

Base radio - 1

Car radio - 3

Walkie-talkies - 3

Personnel

Regular police - 5.0

Auxiliary police - 2.0

Civilian employees - 0

1990 population - 2,650

Motor Equipment

Police cars - 3

Special Motor Equipment - 0

Communication Equipment:

Base radio - 1

Car radios - 3

Walkie-talkies - 3

Personnel

Regular police - 5.3

Auxiliary police - 2.0

Civilian employees - 0

2000 population - 2,850

Motor Equipment

Police cars - 3

Special Motor Equipment - 0

Communication Equipment:

Base radio - 1

Car radios - 3

Walkie-talkies - 3

Personnel

Regular police - 5.7

Auxiliary police - 2.0

Civilian employees - 0

Recommendations

- (1) Continue regular attendance of educational courses provided the various law enforcement agencies.
- (2) As stated in Table 5, the police department will need additional equipment and personnel in the future to accommodate the population increase. It is suggested that the department continue programming these future needs into capital budgeting process to smooth out the annual budget and not overload it in any particular year.
- (3) Continue two year vehicle replacement policy.
- (4) Provide adequate police protection relative to the standards established by the municipal police administration of one policeman per 500.
 - (a) Hire additional policemen, or
 - (b) Coordinate a more intensive Landis/Rowan County police protection service.
- (5) Establish a system of documenting crime statistics. It is suggested that this could be accomplished particularly by pin mapping areas where reoccurring and occurring accidents happen and local development patterns showing special problem areas.

Fire Department

The Town of Landis provides fire protection for its 1,797 residents through a 27 man volunteer fire department which was established in 1973 and is located within the municipal building complex. The two bay stations front on East Garden Street. At present there are two fire trucks which service residents within the town limits. Residents who live outside the town limits and within 500 feet of a fire hydrant pay for fire protection. The two fire trucks are a 1947 LaFrance truck which has a 750 gallons per minute pumping capacity plus a 150 gallon booster tank and a 1964 Ford truck with a 750 gallons per minute pumping capacity plus a 500 gallon booster tank. The department has an additional fire truck on order which is scheduled to replace the 1947 LaFrance. Delivery for the 1975 750 gallons per minute pumper is November, 1975. Other emergency equipment includes a small resuscitator, Scott air packs which will provide four hours of air, and 1,250 feet of 2½ inch hose mounted on both engines, 800 feet of 2½ inch spare hose, 400 feet of 1½ inch hose on each engine and 300 feet of 1½ inch spare hose.

The Landis Fire Department personnel attend periodic training sessions which are offered by Rowan Technical Institute and other classes provided by the state.

The department has a Class 8 fire insurance rating which is established by the N. C. Fire Insurance Rating Bureau and based on a scale from NB1 (the highest rating) to NB10 (the lowest rating). There are approximately 25 to 30 runs per year. Also, the department has a mutual fire protection agreement with neighborhood fire districts. The Landis Fire Department personnel conducts fire inspections within the business section one time per year.

Sources of revenue for operating the 27 man volunteer department come from the General Fund.

Department Needs and Recommendations

The recommendations that were set forth in the 1968 Community Facilities and Public Improvements Program report suggested that a number of departmental improvements be made which reflect inadequacies in the existing fire station, staff and equipment. Since the completion of that report a number of the recommended improvements have been implemented, but some have not. Still other improvements are programmed into the long range capital budgeting process and are still being carried on. The following recommendations are those staff, equipment and facility needs which were documented in the 1968 report but have not been implemented. Also, a number of additional recommendations which will be necessary in the future to operate an efficient fire protection service for the residents of Landis are presented.

- (1) Staff: Employ full time personnel
- (2) Continue the fire prevention class presented by the state and local authorities.
- (3) Equipment: Install a radio alarm system.
- (4) Replace the 1964 Ford fire truck in the near future.
- (5) Continue replacement of worn out hose.
- (6) Continue replacement policy of every 10 years on the fire trucks which will aid in achieving a better fire insurance rating.
- (7) Facilities: Add sleeping and living quarters to the fire station.

- (8) Select an additional fire station locale to adequately service Landis residents (in view of future population increases). Advance acquisition of the necessary land would prevent inflated property cost in the future.
- (9) Improve fire flow standards to comply with the American Insurance Association Standards for Required Fire Flow as seen in Table 6.
- (10) Consider a future sub-station location with the Town Board reviewing the location requirements for municipal fire stations as set out in Table 7.
- (11) Continue the program of eliminating all the deadend and two inch water lines.
- (12) Improve the fire inspection service.

TABLE 6 AMERICAN INSURANCE ASSOCIATION
STANDARDS FOR REQUIRED FIRE FLOW

Population	Required Fire Flow for Average City		Duration, Hours
	<u>gpm¹</u>	<u>mgd²</u>	
1,000	1,000	1.44	4
1,500	1,250	1.80	5
2,000	1,500	2.16	6
3,000	1,750	2.52	7
4,000	2,000	2.88	8
5,000	2,250	3.24	9
6,000	2,500	3.60	10
10,000	3,000	4.32	10
13,000	3,500	5.04	10
17,000	4,000	5.76	10

¹U. S. Gallons per minute

²Millions of U. S. Gallons per day

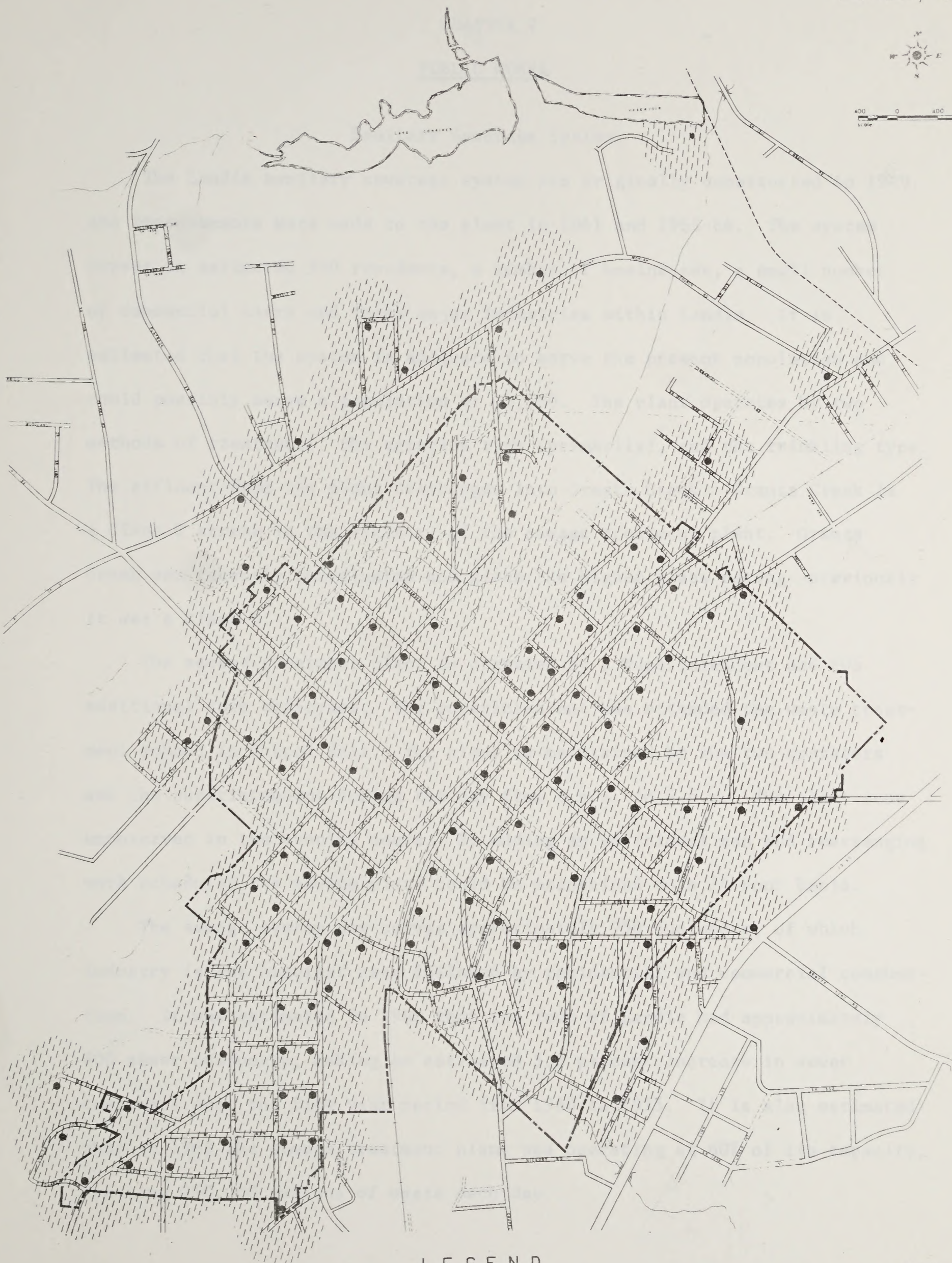
TABLE 7 FIRE COMPANY DISTRIBUTION STANDARDS

<u>District and Required Fire Flow</u>	<u>Optimum Service Radius in Miles</u>	
	<u>From Engine, Hose, or Engine-Ladder Company</u>	<u>From Ladder Company</u>
High-Value District (commercial, industrial, institutional)		
Where required flow is 9000 gpm or more	3/4	1
Where required fire flow is 4500 to 8999 gpm	1	1 1/4
Where required fire flow is less than 4500 gpm	1 1/2	2
Residential District		
Where required fire flow is more than 2000 gpm or where there are buildings in the district three or more stories in height, including tenement houses, apartments or hotels	1 1/2	2
Same as above, but where the life hazard is above normal	1	1 1/4
For buildings having an average separation of less than 100 feet (and a fire flow requirement of 2000 gpm or less)	2	3
For buildings having an average separation of 100 feet or more (and a fire flow requirement of 2000 gpm or less)	4	4

SOURCE: American Insurance Association

FIRE SERVICE AREAS

LANDIS, N. C.



LEGEND

 SERVICE AREA

● FIRE HYDRANTS

MAP-4

CHAPTER V

PUBLIC WORKS

Sanitary Sewerage System

The Landis sanitary sewerage system was originally constructed in 1949, and improvements were made to the plant in 1961 and 1965-66. The system serves an estimated 950 residents, a number of businesses, a small number of commercial users and three major industries within Landis. It is estimated that the system is adequate to serve the present population and could possibly serve a population of 12,500. The plant operates by two methods of treatment: the aeration type (primarily), and the trickling type. The effluent from the plant discharges into Grants Creek. Grants Creek is a Class C stream in the vicinity of the sewage treatment plant. Grants Creek was recently reevaluated and given the higher class rating--previously it was a Class D.

The sewage treatment plant is operated by a superintendent and two additional town employees. The superintendent has attended the waste treatment school in Chapel Hill. The plant is maintained by the two operators and the superintendent during the day from 8 a.m. to 5 p.m. The plant runs unobserved in the evening hours. By adding an additional man and rearranging work schedules the sewage plant could be maintained on a 24-hour basis.

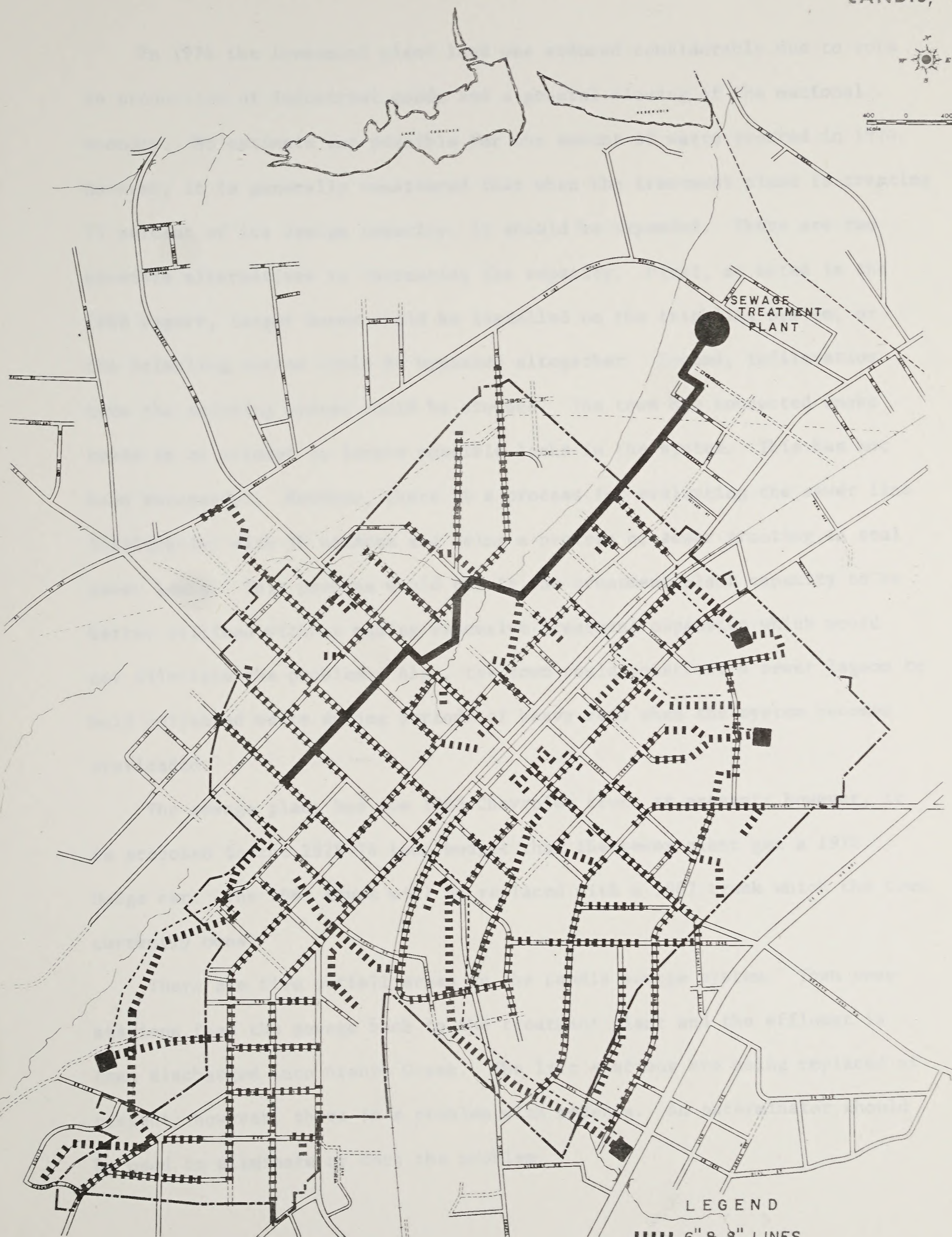
The sewage system now serves approximately 950 customers, of which industry is the heaviest user followed by residential and commercial consumption. It was estimated in 1968 that the Town of Landis had approximately 800 sewer customers, making an estimated 5.3 percent increase in sewer customers over the five year period from 1968 to 1975. It is also estimated that in 1968 the sewage treatment plant was operating at 60% of its capacity, treating 750,000 gallons of waste each day.

EXISTING SEWERAGE SYSTEM

LANDIS, N. C.



400 0 400 800
Scale feet



LEGEND

- ||||| 6" & 8" LINES
- OUTFALL LINES
- - - - - FORCE MAINS
- PUMP STATIONS

MAP-5

In 1974 the treatment plant load was reduced considerably due to cuts in production of industrial goods and a general slowing of the national economy. No estimate was possible for the amount of waste treated in 1974. However, it is generally considered that when the treatment plant is treating 75 percent of its design capacity, it should be expanded. There are two possible alternatives to increasing the capacity. First, as noted in the 1968 report, larger booms could be installed on the trickling system, or the trickling system could be bypassed altogether. Second, infiltration into the existing system could be stopped. The town has conducted smoke tests in an attempt to locate possible leaks in the system. This has not been successful. However, there is a process for evaluating the sewer line infiltration with TV cameras and using a process of sewer grouting to seal sewer leaks. This process would permit the treatment plant capacity to be better utilized without making expensive treatment expansion which would not alleviate the problem. Also, the town could construct a sewer lagoon to hold untreated waste during periods of heavy rain when the system becomes overloaded.

The sewage plant has one 1963 Chevrolet truck at present; however, it is proposed in the 1975-76 town budget that the sewer plant get a 1972 Dodge car. The 1963 truck will be replaced with a 1967 truck which the town currently owns.

There are five outfall areas in the Landis sewage system. Town pump stations feed the sewage back to the treatment plant and the effluent is then discharged into Grants Creek. The lift stations are being replaced at present; however, there is a problem with rodents. An exterminator should be used to eliminate or curb the problem.

The Town of Landis has established a sewer extension policy for in-town residents and for residents living outside the corporate limits. In-town residents receive priority when sewer lines are extended. These residents receive sewer service immediately. Out-of-town residents requesting Landis sewer services are granted this service only after it is approved by the Landis Town Board.

The collection system consists of eight inch lines, ten inch lines, and twelve inch lines which are the outfall lines flowing to the sewage treatment plant. All of the six inch lines have been replaced.

Serious problems presently exist with the collection system and the treatment plant. The suggested recommendations should be considered in the near future and possible improvements to the system be programmed into the capital budget and public improvements program. These recommendations are:

- (1) Evaluate the existing sewer line damages to determine which is more feasible--replacement or repair. The best procedure to use in repairing would be grouting.
- (2) Consider plant expansion only when treatment reaches 75% of plant capacity.
- (3) Add an additional man for the treatment plant and rearrange schedules to 24-hour supervision.

Water System

The Town of Landis has maintained and operated a municipal water system since 1947. The water supply is obtained from two man-made lakes and one reservoir which lies within the Grants Creek watershed basin. Lake Corriher has an approximate 60 million gallon water capacity; Lake Wright has a capacity of 70 million gallons of water.

Storage facilities for the treated water include a one million ground storage located on West Ryder, two 100,000 gallon elevated tanks located on East Ryder Street and North Meriah Street, and a 290,000 gallon storage area located at the water treatment plant. The total combined storage capacity of the existing facilities is 1,540,000 gallons. This represents a 48,000 gallon storage increase over the 1968 estimate of 1,492,000 gallons.

The Landis water treatment plant was built in 1953 and has a design capacity of one million to as much as 1,198,000 gallons of water per day. The highest daily peak consumption has been 1,250,000 gallons of water per day, but the average daily consumption is 600,000 to 700,000 gallons per day.

The Landis water system provides water for in-town residents as well as for residents in adjacent areas. The largest water users in town are three industries and one private water company. Residential consumption is next, and small commercial establishments consume the least amount.

The 1968 Community Facilities report estimated the water consumption by 1990 could possibly be 277 million gallons of water. This increase assumes there will not be any large scale annexations. However, if adjacent areas are annexed, the yearly consumption could possibly be 328 million gallons.

Landis is currently operating at 1,250,000 gallons per day during peak periods. The average daily water demand is between 600,000 to 700,000

gallons. Under average conditions, the storage capacity of 1,540,000 is adequate to satisfy the water demands for two days. However, the treatment plant design capacity is soon going to be less than the peak daily demand.

A technical engineering report has been completed on the Landis water supply and water demands. The report has resulted in the Town of Landis undertaking a \$627,000 water treatment expansion program. The water treatment expansion will increase the treatment capacity by one to two million gallons of water per day. Plans for expansion are now being made and it is anticipated that the project will be completed in 1978.

The increase in water treatment capacity should not be confused with water supply. Landis and China Grove are located within the Grants Creek watershed which, at present, is a potable water supply for the two towns. The supply is limited, however, and consideration should be given to developing a single source of water supply and treatment for the two municipalities. Landis will have a surplus and it would be feasible for the Town of China Grove to link into the Landis water system.

Personnel and equipment include three water treatment men, a superintendent, and one pickup truck. Map 5 illustrates the Landis water and sewerage service areas.

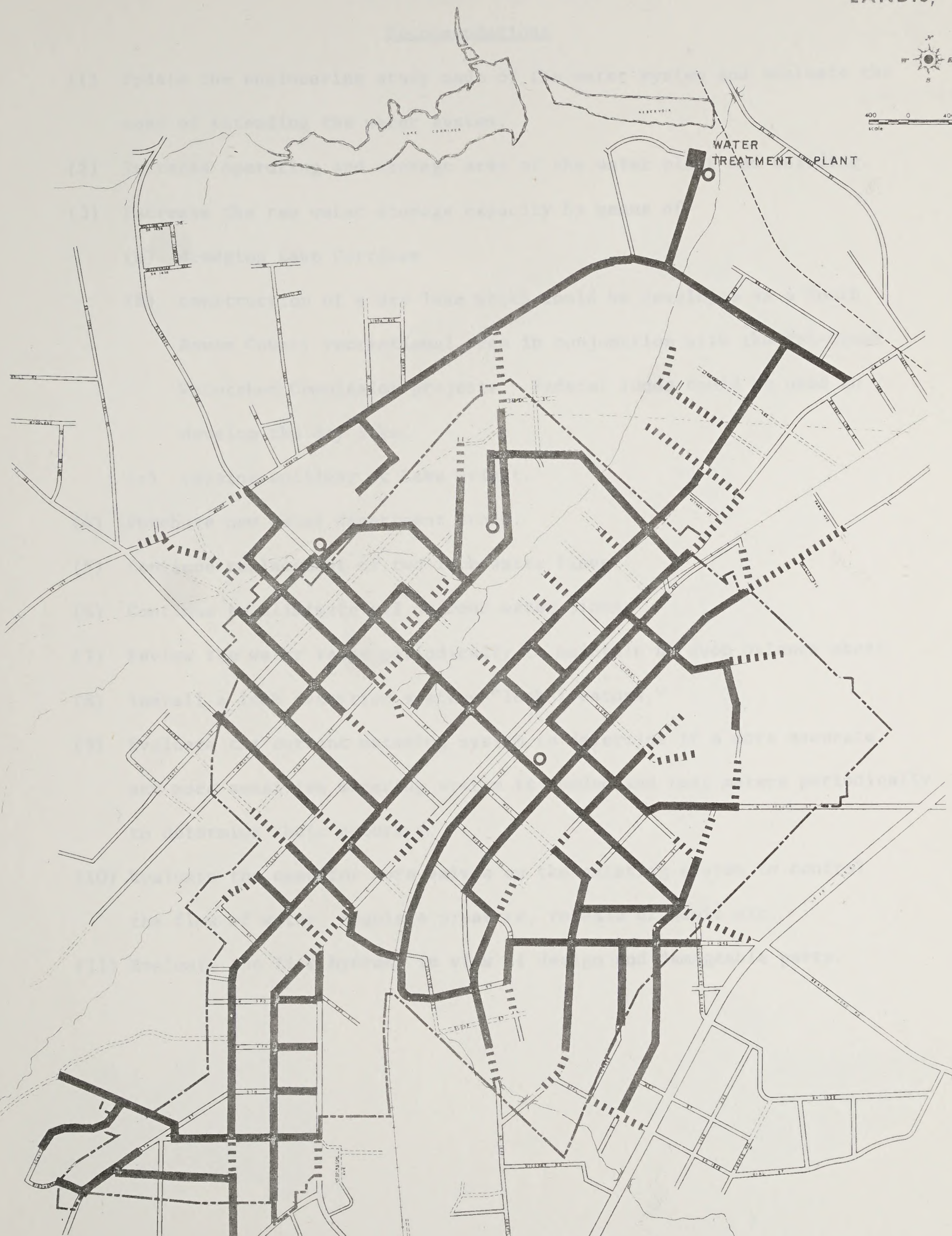
Some of the following recommendations were suggested in the 1968 report and need to be reemphasized. New recommendations relevant to the increase in water supply and recommendations which were stated in the 1968 Public Improvements section of the Community Facilities report for the five year period 1975 to 1980 are also listed.

EXISTING WATER SYSTEM

LANDIS, N. C.



400 0 400 800
scale feet



LEGEND

2" LINES
6" LINES & OVER

○ WATER TANKS & RESEVOIRS

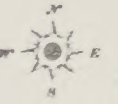
MAP-6

Recommendations

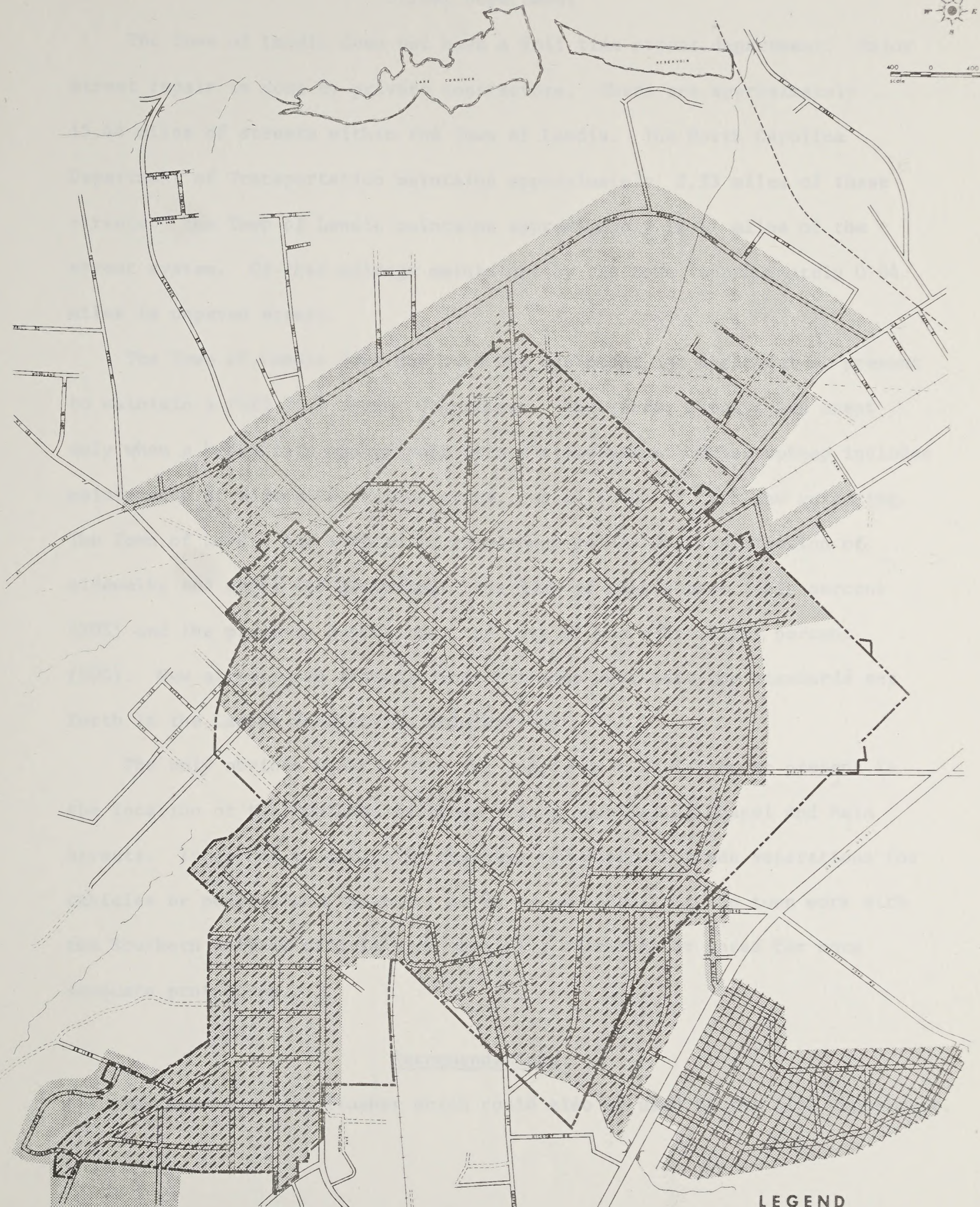
- (1) Update the engineering study made of the water system and evaluate the cost of extending the water system.
- (2) Increase operating and storage area of the water plant and building.
- (3) Increase the raw water storage capacity by means of
 - (a) dredging Lake Corriher
 - (b) construction of a dry lake which could be developed as a South Rowan County recreational area in conjunction with the Tri-Creek Watershed Commission projects. Federal funds could be used to develop the dry lake.
 - (c) raising spillway at Lake Wright.
- (4) Purchase new water department truck.
- (5) Continue replacement of two inch water lines.
- (6) Continue to eliminate all deadend water lines.
- (7) Review the water rates periodically to maintain an even balance sheet.
- (8) Install a leak detection system--"leak locators."
- (9) Evaluate the current metering system to determine if a more accurate and more sensitive metering system is needed and test meters periodically to determine their accuracy.
- (10) Evaluate the need for more valves on the existing system to control the flow of water, regulate pressure, release or admit air.
- (11) Evaluate the fire hydrant in view of design and damageable parts.

WATER AND SEWERAGE SERVICE AREAS





LANDIS, N. C.



400 0 400 800
Scale feet



LEGEND

-  WATER
-  SEWERAGE
-  BOTH
-  PRIVATE CO.

MAP-7

Street Department

The Town of Landis does not have a full time street department. Major street repair is done by private contractors. There are approximately 15.44 miles of streets within the Town of Landis. The North Carolina Department of Transportation maintains approximately 3.33 miles of these streets. The Town of Landis maintains approximately 12.11 miles of the street system. Of that mileage maintained by the town, approximately 0.94 miles is unpaved street.

The Town of Landis does not have the equipment nor personnel at present to maintain a full time street department. Therefore, streets are swept only when a heavy rain washes soil onto the pavements. Other upkeep includes maintenance of sidewalks, mowing grass, installation of curb and guttering. The Town of Landis has adopted an assessment policy for installation of sidewalks and curbs and guttering: the Town of Landis pays fifty percent (50%) and the property owners bear the cost of the other fifty percent (50%). New streets and sidewalk installations must meet the standards set forth in the Landis Subdivision Regulations.

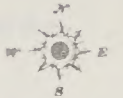
The only obvious problem with the vehicular circulation at present is the location of the Southern Railroad tracks paralleling Chapel and Main streets. It is not economically feasible to construct grade separations for vehicles or pedestrians; however, it is recommended that the town work with the Southern Railway officials in obtaining crossarms or gates for more adequate protection.

Recommendations

- (1) Purchase a street flusher which could also be used by the fire department.

UNPAVED STREETS

LANDIS, N. C.



400 0 400 800
scale feet



- (2) Continue paving unpaved streets and making the necessary street improvements within the manpower and equipment capacity of the town.
- (3) Improve traffic control devices at street and railroad grade crossings.
- (4) Consider street improvements which will concentrate on vehicular and pedestrian compatibility. Plan street, sidewalk, and recreation together (bicycle system).
- (5) Evaluate the validity of the Kanlacon highway plan and its relevance to the Town of Landis.

Sanitation Department

The Town of Landis has discontinued the use of their sanitary landfill off Kimball Road. The town now uses the Rowan County sanitary landfill which is located off Airport Road. The town is charged two dollars per load of garbage which is dumped on the county site.

The sanitation department employs four full time employees with additional help being provided by other departments when collections have to be made more often.

The department has one dump truck and two trucks with packers--a 1970 Chevrolet packer and a 1968 International packer truck. A 1960 Ford dump truck is shared by the sanitation department and the street department. The town has adopted a five year replacement policy on packer trucks. A new packer truck to replace the 1968 International packer has been ordered. The 1960 Ford dump truck should be replaced in the near future.

The sanitation department serves only the Town of Landis. Refuse is collected twice a week in residential areas and three times a week in industrial and commercial areas. Leaves, tree limbs, and similar debris are collected once each week. In a 1974 questionnaire distributed to residents of Landis recommendations for improving garbage collection in town were solicited. The most reoccurring response was that garbage should be collected three times a week (in residential areas) in summer months and after Christmas holidays, and a regular schedule for pick up should be provided.

Recommendations

- (1) Increase garbage collection during summer months and Christmas holidays.

- (2) Continue the five year replacement policy on packer trucks.
- (3) Purchase a new packer truck.
- (4) Replace the 1960 Ford dump truck.
- (5) Evaluate need for additional personnel in the near future.

CHAPTER VI

HEALTH FACILITIES

Hospital Facilities

There are two hospitals available to residents of Rowan County and Landis. Rowan Memorial Hospital is open to the general public. The Veterans Administration Hospital serves the area veterans. The inventory of existing hospital facilities available to Landis residents will be limited to those which are open to the general public and those located in Rowan, Cabarrus, and Iredell counties.

Rowan Memorial Hospital is located off Mocksville Avenue. The hospital has a total of 332 beds of which 31 are obstetrical, 58 pediatric, and 243 medical-surgical beds.

The medical staff consists of 59 active doctors, 12 courtesy physicians, 5 consulting doctors, and 13 dentists. All total, Rowan Memorial employs 570 full time and 85 part time employees.

With Rowan Memorial situated somewhat in northern Rowan County it is not surprising that many residents near North Kannapolis, China Grove and Landis travel to Cabarrus Memorial for medical treatment. Cabarrus Memorial Hospital in Concord reports some 16,619 in-patient admissions and 25,255 emergency or out-patient visits in 1972. Approximately 23.3% of these are Rowan County residents. This figure gains more significance when compared to the 1970 statistic of 16.4%. Other medical facilities available to Landis residents include Lowrance Hospital, located in Mooresville, which is approximately 20 minutes west of Landis.

Health Department

The Rowan County Health Department is located on the Old Concord Road approximately 12 miles from Landis. There are also four local clinics located in Landis, China Grove, Cleveland, and East Spencer which provide general clinic services such as immunizations for diphteria, tetanus, whooping cough, polio, measles, smallpox, rubella, tuberculin skin test, and serology tests for marriage license applicants.

Orthopedic clinic is held bi-monthly. Chest X-rays are provided daily by a qualified X-ray technician, regional neurology clinics are held monthly, and pediatric supervisory and nurse screening clinics are held monthly.

These services are organized not only to serve those who may be termed "medically indigent" or nearly so, but the entire populous of Rowan County. The eye clinics which are held twice monthly requires that patients must be formally certified by the Department of Social Services as "disadvantaged."

Rowan Rescue Squad

The Rowan Rescue Squad is a volunteer organization which provides emergency assistance to accident victims throughout the county. In addition, its members give voluntary weekend assistance to the hospital emergency room, provide ambulance service to all sporting events in the county (particularly interscholastic competition), and assist the regular ambulance service if needed. Its central location at the intersection of Julian Road and Interstate 85 gives the squad ample mobility to fulfill all of these duties.

The membership consists of approximately 30 men who devote their time to community service. All of the members have received training from Red Cross courses and also from first aid seminars in both Chapel Hill and Raleigh.

Many of the men have over 1,000 hours of official Red Cross training. Moreover, at the time of the survey, some 14 squad members had become certified ambulance attendants. More plan to complete the attendant requirements in order that the squad may better man its three ambulance vehicles.

Each year the Rowan Rescue Squad, like numerous other agencies, is financed by the United Fund. This and an annual contribution of \$500 by the county are its only sources of funds, excluding possible donations of money or equipment. The organization has, at bottom, \$100,000 invested in rescue and first aid equipment including the headquarters building where the equipment is stored. Besides the three ambulance vehicles, the major equipment includes two crash trucks, resuscitators, mobile light plants, portable light plants, generators, air packs, and boats. An addition has been made to the original Julian Road site and ought to provide sufficient storage space for some time.

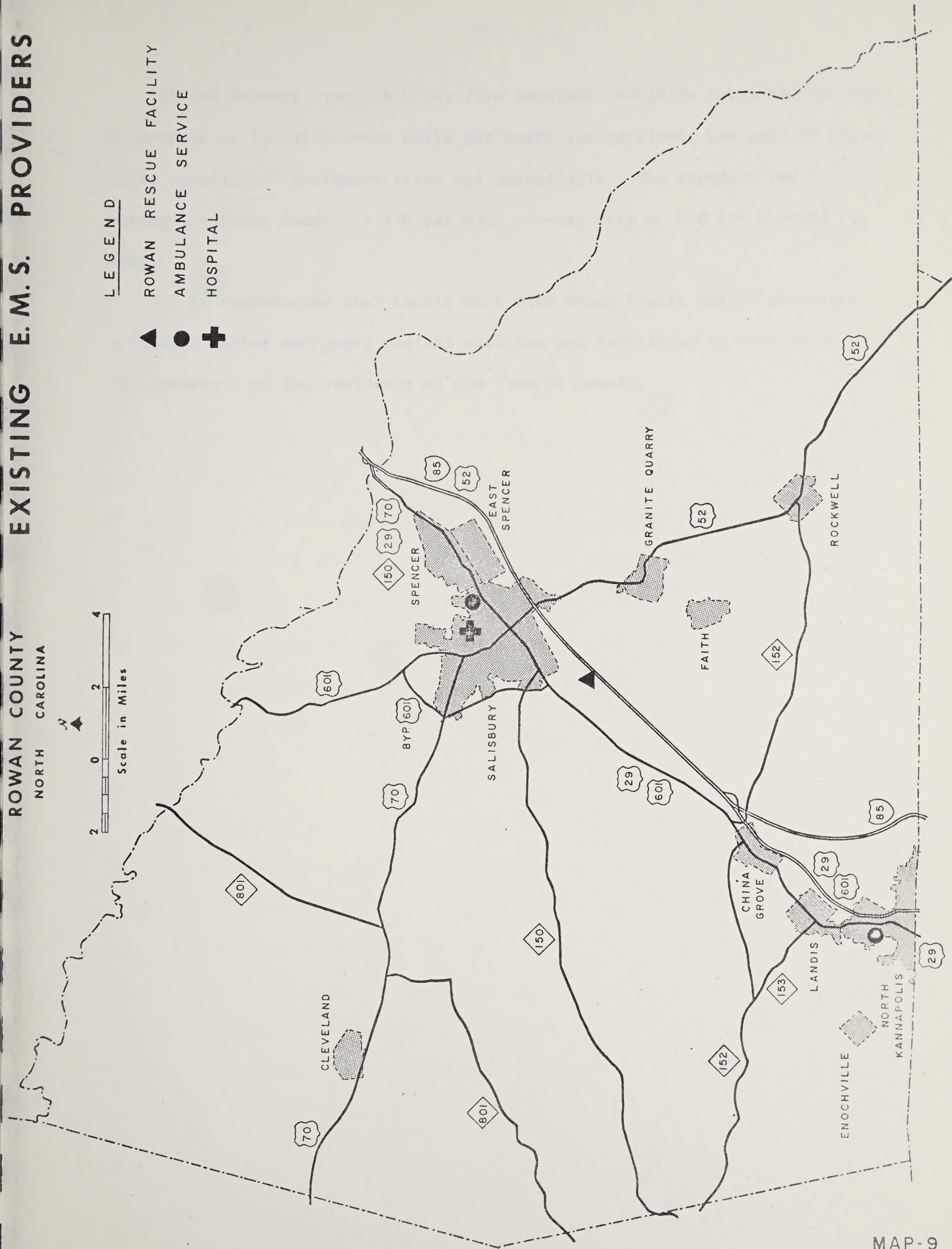
Ambulance Service

Ambulance service in Rowan County is provided exclusively by the C & M Ambulance Service whose main station is on 401 West 14th Street in Salisbury. Formerly C & M had a second station in Concord, but Cabarrus County itself has since begun to operate the ambulance service as a county function. Without the Concord station, the south end of Rowan County has suffered reduced ambulance coverage. C & M, however, has moved to alleviate this situation by opening a station in North Kannapolis. The Rowan ambulance service is franchised by the county, with the county contracting to pay \$24,200 to help defray C & M's operational expanses. As well, the county reimburses the service for welfare recipient trips.



LEGEND

- ▲ ROWAN RESCUE FACILITY
- AMBULANCE SERVICE
- ✚ HOSPITAL



At the present time C & M has five ambulance vehicles certified for use. An average of 180 assistance calls per month are received; how many of those calls constituted emergency trips was unavailable. The standard fee throughout Rowan County is \$20 per each one-way trip or \$30 for a round trip.

It is recommended that Landis work with Rowan County health officials providing better emergency medical services and facilities to best serve the interests of the residents of the Town of Landis.

Standards

The North Carolina Department of Public Instruction, School Planning Division, suggests that schools should be located near the center of the present and future student population. The site should be free from the presence of railroads, factories, mines, noise, overcrowding, and cheap accommodations. For the location of existing school sites and facilities of other types and levels elementary should be reviewed with respect to the present location. Schools are located close to industrial and commercial areas and on a major street system.

CHAPTER VII

CULTURAL FACILITIES

School Facilities

The Landis school system consists of Landis Elementary, Corriher-Lipe Junior High School and Aggrey Memorial which has been converted to a junior high facility and incorporated as part of Corriher-Lipe. South Rowan Senior High School provides students within Landis with secondary educational facilities.

The entire school network within Landis is part of the Rowan County school system. Tables 8, 9, 10 and 11 detail specific space adequacies, site adequacies, space utilization and student-teacher ratios for Landis Elementary, Corriher-Lipe Junior High and South Rowan Senior High..

The following recommendations are standards for site location of primary and secondary schools as established by the American Public Health Association, the National Education Association and the North Carolina State Department of Public Instruction.

Standards

The North Carolina Department of Public Instruction, School Planning Division, suggests that schools should be located near the center of the present and future student population. The site should be free from the nuisances of railroads, factories, smoke, noisy enterprises, and cheap commercialism. Any future expansion of existing school sites and facilities of Corriher-Lipe and Landis Elementary should be reviewed with respect to the current location. Both are located close to industrial and commercial areas and on a major street system.

The North Carolina State Department of Public Instruction supervises and coordinates all activities of the public school system although the Board of Education provides a framework of policies under which the local school systems operate.

Following are some of the most important standards set forth by the N. C. Department of Instruction:

School site size:

Elementary schools (grades 1 - 6)

Description: Minimum site of 10 acres plus one additional acre for each 100 students of projected ultimate maximum enrollment.

Junior High Schools (grades 7 - 9)

Description: Minimum site of 20 acres plus one additional acre for each 100 students of projected ultimate maximum enrollment.

School size:

Elementary schools

Membership of 350-700 students per school
Minimum of 2 teachers per grade

Junior High Schools

Membership of 750-950 students per school
Minimum of 4 teachers per grade

The National Commission on school district reorganization of the National Education Association recommends schools in which:

- (1) the enrollment in grades 1 - 6 is 175 to 300
- (2) the enrollment in junior high schools is from 700 to 1,500

The American Public Health Association, committee in the Hygiene of Housing, recommends the following one-way walking distances for school children:

(1) Elementary: one-fourth to one-half mile

(2) Junior High: three-fourths to one mile

The American Public Health Association also recommends 30 minutes as the maximum one-way travel time by conveyance.

TABLE 8

1971-72

SITE ADEQUACIES

	<u>Grades</u>	<u>Year Built</u>	<u>Additions</u>	<u>Existing Site</u>		<u>Is Site Adequate?</u>
				<u>Acreage</u>	<u>Recommended Site Acreage</u>	
Landis Elementary	1-6	1923	1941	6.5 ac.	19.0 ac.	No; lacks 12.5 acres
Corriher-Lipe Junior High	7	1936	1952	7.9 ac.	23.0 ac.	No; lacks 15.1 acres
Corriher-Lipe Junior High	8-9	1942	1961	6.5 ac.	26.0 ac.	No; lacks 15.5 acres
South Rowan Senior High	10-12	1961	--	36.7 ac.	40.0 ac.	No; lacks 3.3 acres

SOURCE: Community Facilities Report of Rowan County, 1971 and School Questionnaire, 1974

TABLE 9

1971-72

STUDENT-TEACHER RATIOS

	<u>Grades</u>	<u>Students</u>	<u>Students Per Grade</u>		<u>Teachers Per Grade</u>		<u>Student-Teacher Ratio</u>
			<u>Students</u>	<u>Teachers</u>	<u>Teachers</u>	<u>Per</u>	
Landis Elementary	1-6	885	147.5	34	5.7		26:1
Corriher-Lipe Jr. High (both schools)	7, 8-9	790	263.3	32	10.7		25:1
South Rowan Sr. High	10-12	928	309.3	43	14.3		22:1

SOURCE: Community Facilities Report of Rowan County, 1971 and School Questionnaire, 1974

TABLE 10

GENERAL SPACE UTILIZATION

	<u>Grades</u>	<u>Teachers</u>	<u>Classrooms</u>	<u>Students</u>	<u>Student Capacity</u>	<u>Percent of Capacity</u>	<u>Is School Overcrowded?</u>
Landis Elementary	1-6	34	32	885	864	102%	Yes; slightly
Corriher-Lipe Jr. High (both schools)	7, 8-9	32	28	790	700	113%	Yes
South Rowan Sr. High	10-12	43	38 + 1 mobile unit	928	951	98%	Marginal

SOURCE: Rowan County Community Facilities Report, 1971, and School Questionnaire, 1974

TABLE 11

SPECIFIC SPACE ADEQUACIES

	<u>Grades</u>	<u>Adm. Space</u>	<u>Teacher Work Space</u>	<u>Multi-Purpose Work Space</u>	<u>Music Space</u>	<u>Art Space</u>	<u>Gym</u>	<u>Audit.</u>	<u>Cafet.</u>	<u>Custodial Space</u>
Landis Elementary	1-6	Yes	Yes	Gym	No	No	Yes	Yes	Yes	Yes
Corriher-Lipe Jr. High	7	Yes	Yes	Yes	Yes	Yes	Yes	No (gym)	Yes	Yes
Corriher-Lipe Jr. High	8-9	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
South Rowan Sr. High	10-12	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes

SOURCE: Rowan County Community Facilities Report, 1971, and School Questionnaire, 1974

It would be more desirable if it was economically feasible to select a more suitable site for future expansion of these facilities. Development of future school sites relative to the recommended standards would insure a safer, more pleasing environmental arrangement for educating future generations of Landis citizens.

Recommendations

The following recommendations are based on the findings of a special survey committee who conducted a Rowan County School Survey Report and on the recommendations made by the Rowan County School Board.

- (1) Construct a new elementary school in the China Grove-Landis area.
- (2) Remove the 1923 and 1940 buildings at Landis Elementary School.
- (3) Discontinue Corriher-Lipe as a junior high school.
- (4) Use the Corriher-Lipe Junior High facility as a part of the Landis Elementary School.
- (5) Increase school acreages to recommended standards.
- (6) Request a higher level of financial support for current expense to be used for:
 - (a) improving instructional services
 - (b) employing additional teachers to reduce the student-teacher ratio, principally at the elementary and junior high school levels
 - (c) establishing more comprehensive junior high school counseling programs
 - (d) improving libraries by adding books, study carrels, listening machines, and viewing devices.

Library Facilities

The Landis municipal library is located within the Landis Municipal Building. The library is housed within a 20 x 40 foot room which is in excellent condition. The Landis library is a branch library of the Rowan County public library system.

The staff is composed of one full time librarian and one part-time assistant. The North Carolina State Library Commission suggests that a municipal library system have a minimum of one librarian for every 3,000 population. Landis is within the recommended standards. However, by the end of the planning period (year 2000) Landis will need an additional librarian to meet the recommended standard.

The Rowan Citizens for Better Libraries recently contracted with Hoyt Galvin and Associates, a library planning consultant firm, to evaluate the existing Rowan County library system. The report has been completed and recommendations have been presented detailing improvements for the entire library system. Of particular relevance to Landis residents was a recommendation on branch library needs. The recommendation was to establish a South Rowan branch library either in Landis, China Grove or North Kannapolis. The suggestion was to locate the branch in a shopping center environment which would provide easy access for the residents of South Rowan County.

The Landis library owns 3,942 books. Another 3,655 books are on loan from the Rowan County Library--approximately 48 percent of the library books are from the Rowan Public Library. These 7,597 books give Landis 3.3 books per capita. The American Library Association recommends that a library have two books per capita. The library also owns 133 sound recordings and receives approximately 15 additional recordings on loan from Rowan Public Library.

The general circulation of the Landis library for 1973-74 totaled approximately 14,000 volumes. This indicated that over a five year period circulation has more than doubled the old estimate of 6,509 volumes in 1966-67.

The library is open to the public from 1 p.m. until 5 p.m. on Monday and Thursday and from 6 p.m. until 9 p.m. on Tuesdays and Wednesdays.

Sources of funding for the Landis library come from ABC funds. It should be noted that Landis has a higher per capital expenditure (2.01) than any of the other branch libraries which were discussed in the Hoyt Galvin report.

Tables 12 and 13 are guidelines for determining minimum space requirements and formulas for library size which are recommended by the American Library Association, Subcommittee on Standards for small libraries.

Recommendations

- (1) Support the implementation of the regional library concept.
- (2) Enlarge the representation on Board of Trustees of the Rowan County Library with Landis having at least one representative.

TABLE 12

GUIDELINES FOR DETERMINING MINIMUM SPACE REQUIREMENTS

Population Served	Shelving Space ¹		Reader Space	Staff Work Space	Estimated Additional Space Needed ³	Total Floor Space
	Size of Book Collection	Linear Feet of Shelving ²				
Under 2,499	10,000 vol.	1,300 linear ft.	1,000 sq. ft.	Min. 400 sq. ft. for 13 seats, at 30 sq. ft. per reader space	300 sq. ft.	2,000 sq. ft.
2,500-4,999	10,000 vol. plus 3 bks. per capita for population over 3,500	1,300 linear ft. Add 1 ft. of shelving for every 8 bks. over 10,000	1,000 sq. ft. Add 1 sq. ft. for every 10 bks. over 10,000	Min. 500 sq. ft. for 16 seats. Add 5 seats per M. over 3,500 pop. served, at 30 sq. ft. per reader space	700 sq. ft.	2,500 sq. ft. or 0.7 sq. ft. per capita, whichever is greater
5,000-9,999	15,000 vol. plus 2 bks. per capita for population over 5,000	1,875 linear ft. Add 1 ft. of shelving for every 8 bks. over 15,000	1,500 sq. ft. Add 1 sq. ft. for every 10 bks. over 15,000	Min. 700 sq. ft. for 23 seats. Add 4 seats per M. over 5,000 pop. served, at 30 sq. ft. per reader space	1,000 sq. ft.	3,500 sq. ft. or 0.7 sq. ft. per capita, whichever is greater

SOURCE: American Library Association, Subcommittee on Standards for Small Libraries

¹Libraries in systems need only to provide shelving for basic collection plus number of books on loan from resource center at any one time.

²A standard library shelf equals 3 linear feet.

³Space for circulation desk, heating and cooling equipment, multipurpose room, stairways, janitors' supplies, toilets, etc., as required by community needs and the program of library services.

TABLE 13 FORMULAS FOR LIBRARY SIZE

Population Size	Book Stock Volumes Per Capita	No. of Seats Per 1,000 Population	Circulation Volumes Per Capita	Total Sq. ft. Per Capita	Desirable First Floor Sq. Ft. Per Capita
Under 10,000	3½ - 5	10	10	.7 - .8	.5 - .7
10,000	Same	Same	Same	Same	Same
35,000	2 3/4 - 3	5	9.5	.6 - .65	.4 - .45

SOURCE: Joseph L. Wheeler and Herbert Goldhor, Practical Administration of Public Libraries (New York, Harper and Row, 1962), p. 554.

Recreational Facilities

In 1900 no city in the United States operated a playground or recreation department. Through the years, however, the provision of recreational activities became an integral part of a city's job in providing for the well being of its citizens. In fact, recreation has become so important that today the municipality which does not furnish some sort of public recreational facility is the exception. The recent importance of recreation is due primarily to modern technology and higher standards of living which have provided increasing numbers of people with more leisure time. Many municipalities, therefore, are faced with the problem of providing additional recreational facilities.

There are many benefits which may be derived from a recreational program. For example, recreation not only enhances the health of individuals, but may also aid in reducing crime and accident rates, as well as attracting new industry. When these and other factors are considered, the importance and benefits of recreation are indeed far reaching.

As a guide in the provision of recreational facilities, goals and objectives must be established to aid in long-range planning. In general, the recreational goals for Landis may be stated as follows:

- (1) To provide recreational opportunity of all types to serve all segments of the population, thereby enhancing the lives of the members of the community and providing means for a more stimulating and rewarding use of leisure time.
- (2) To preserve natural and man-made features of historic interest and value, and conserve natural resources.

- (3) To provide a place for outdoor recreation for every resident within the financial capabilities of the local governments.

Recreational objectives for Landis should also be adopted. These include:

- (1) Parks should be located as near as possible to the center of the population they are to serve.
- (2) Where possible or practical, neighborhood parks should be combined with elementary or junior high schools and multi-neighborhood parks with high schools.
- (3) Neighborhood parks should be located so that the users will not have to cross freeways or arterial streets to get to them.
- (4) Community parks should be located so that each is readily accessible by public and private transportation.

Sites

Landis Recreation Commission Hut. This facility is located at 208 Meriah Street in Landis. The structure is a wood frame building originally used as a Girl Scout hut. It is now used as office space for Linn-Corriher recreation director and local women's club meetings.

The structure is situated upon a one and one-half acre site. The structure has very limited use. The tables and chairs used for meetings are in very good shape. The Landis Recreation Commission building should be replaced with a more modern facility to accommodate a broader segment of the Landis population.

Landis Pavillion. The Landis Pavillion is located on a three acre site on South Beaver Street in Landis. This particular recreation site consists of a picnic shelter and children's play area. These facilities are available to any group living inside the Landis corporate limits.

Linn-Corriher Field No. 1. Linn-Corriher Field no. 1 is located on a 10 acre site on South Main Street in Landis. This field is owned by Linn-Corriher Mill and maintained by the Town of Landis. The facility consists of a lighted softball field, bleachers, picnic area, concession stand, and children's playground equipment.

Linn-Corriher Field No. 2. Linn-Corriher Field no. 2 is located on a 10 acre site on Meriah Street in Landis. The field is owned by Linn-Corriher but maintained by the Town of Landis. The facility consists of a lighted ball field, bleachers, picnic area, concession stand, and children's playground equipment.

Landis Little League Fields. The Landis Little League fields consist of two 4 acre baseball fields located on Valley and Meriah streets. These fields are owned by Linn-Corriher Mill. Maintenance is provided periodically by the town. This site consists of two little league baseball fields and bleachers.

Tennis Courts. The Landis Community Foundation owns and operates a semi-public facility used only by the citizens of Landis. The facility is located on a two acre site on Meriah and Rice streets. The site consists of lighted tennis courts, ping pong facilities, and a swimming pool which can accommodate 150 people. A membership fee of \$2.50 is paid each summer.

At present the Town of Landis has approximately 30 acres of recreational sites available to Landis residents. It is estimated that the Landis population by the year 2000 should be somewhere around 3,000. The general practice in the development of recreation facilities indicate that there should be approximately one acre of park and recreation space for each 100 population. The Town of Landis, at present, surpasses the future demand.

A regional park of at least 100 acres is needed in the South Rowan area. Such a facility would probably be developed at the county level. A regional park facility could be developed on a joint effort by Landis, China Grove, North Kannapolis, the Rowan County Tri-Creek Watershed Commission, and the Soil and Water Conservation Service of the Department of Agriculture. The latter three agencies are presently in the process of evaluating the Grants Creek Watershed Basin with respect to economic and environmental development. It is possible that a regional park could be developed from the Grants Creek basin, which would not only provide recreation for South Rowan County, but also flood control and a possible water source for future use.

Standards

A generally accepted standard established by the National Recreation Association for recreational facilities is one acre of permanent publicly owned open space for each one hundred inhabitants of a town. This ratio excludes any recreational areas which are provided by the state and federal governments, semi-public agencies, and private citizens. The minimum park and outdoor recreation standards used in the development of this study can be seen in Tables 14 and 15.

Recommendations

- (1) Develop a more intensive recreation program for all age groups in all neighborhoods.
- (2) Construct a new community building.

- (3) Consider and support the development of a regional park in South Rowan County. Contact the Soil and Water Conservation Agency and supply input for the watershed development.
- (4) Since there will be no large capital expenditure to purchase land for recreational uses over the planning period, budget the necessary funds to improve the existing equipment on town owned parks. Also, look at the possibility of developing or designating a bicycle system in conjunction with street and sidewalk improvements, or inventory the existing street system and designate streets which are under used as part of a bicycle system. This would require placement of signs for designation.

TABLE 14

GUIDELINES FOR RECREATION AND OPEN SPACE

<u>Type of Recreation Area</u>	<u>Population Served</u>	<u>Location</u>	<u>Minimum Acreage</u>	<u>Equipment/Facilities</u>
Vest Pocket Park	500-2,500	Residential	1/2 to 1 acre	Children's play area, quiet games, play equipment, landscaping
Neighborhood Park	2,000-10,000	Residential	5 to 15 or 2 acres per 1,000 pop.	Playground equipment, tennis courts, picnic facilities, landscaping, pool (optional)
Neighborhood Playground	2,000-10,000	Residential School	5 to 15 acres or 2 acres per 1,000 population	Playground area and equipment, baseball, basketball and volleyball area
Community Park	N/A	N/A	20-60 or 6.5 acres per 1,000 pop.	Picnic facilities, wooded area, swimming pool, tennis courts, playground equipment, recreation or community center, riding facilities (optional), amphitheater (optional), golf course (optional), athletic field
Downtown Park	N/A	Downtown	N/A	Landscaping, benches, walkways, monuments
Auditorium or Community Center	1 per 25,000 pop.	N/A	N/A	Auditorium, gymnasium, meeting rooms, kitchen and restroom facilities, crafts room, office storage (one game room per 10,000 pop.) (one art room and crafts room per 10,000 pop.)
Golf courses (18 hole)	1 per 25,000 pop.	N/A	N/A	N/A
Shooting range	1 per 25,000 pop.	N/A	N/A	Complete complex including high power, small bore, trap and skeet, field archery

SOURCE: Dept. of the Interior, Bureau of Outdoor Recreation

TABLE 15 STANDARDS FOR SPECIAL FACILITIES

<u>Type of Recreation Facility</u>	<u>Standards Per 1,000 People</u>	<u>Comments</u>
Baseball diamonds	1 per 6,000	Regulation 90 feet
Softball/youth baseball diamonds	1 per 3,000	
Tennis courts	1 per 2,000	(Best in battery of four)
Basketball courts	1 per 500	
Swimming pools - 25 M	1 per 10,000	Based on 15 sq. ft. of water for each 3% of population
Swimming pools - 50 M	1 per 20,000	
Skating rinks (artificial)	1 per 30,000	
Neighborhood centers	1 per 10,000	No gym
Outdoor theaters (non-commercial)	1 per 20,000	

SOURCE: Bureau of Outdoor Recreation

CHAPTER VIII

PUBLIC UTILITIES

The Town of Landis is an electric city. This means the town purchases electricity from Duke Power at wholesale rates and distributes this power at retail rates to residential, commercial and small industrial customers within the municipal corporate limits and the immediate area (see Map 10).

The electrical department is currently located within the Landis Municipal Building complex. The departmental equipment is stored in a 24 x 16 storage room addition to the Municipal Building. Vehicles used by the electric department include a 1961 Chevrolet pickup truck, a 1966 Chevrolet pickup. A new 1975 Chevrolet pickup has been budgeted in the 1975-76 budget for the electric department. Other equipment consists of a 1960 Ford dump truck, a 1970 line truck with lift bucket and auger, and a 1953 Truehauf pole trailer. Storage of the departmental vehicles has recently become a problem. The 1960 Ford dump truck is in bad condition.

The department operates with two fulltime electricians and two part time helpers. Men from other departments give assistance when help is needed. The department has no need for additional full time men at present.

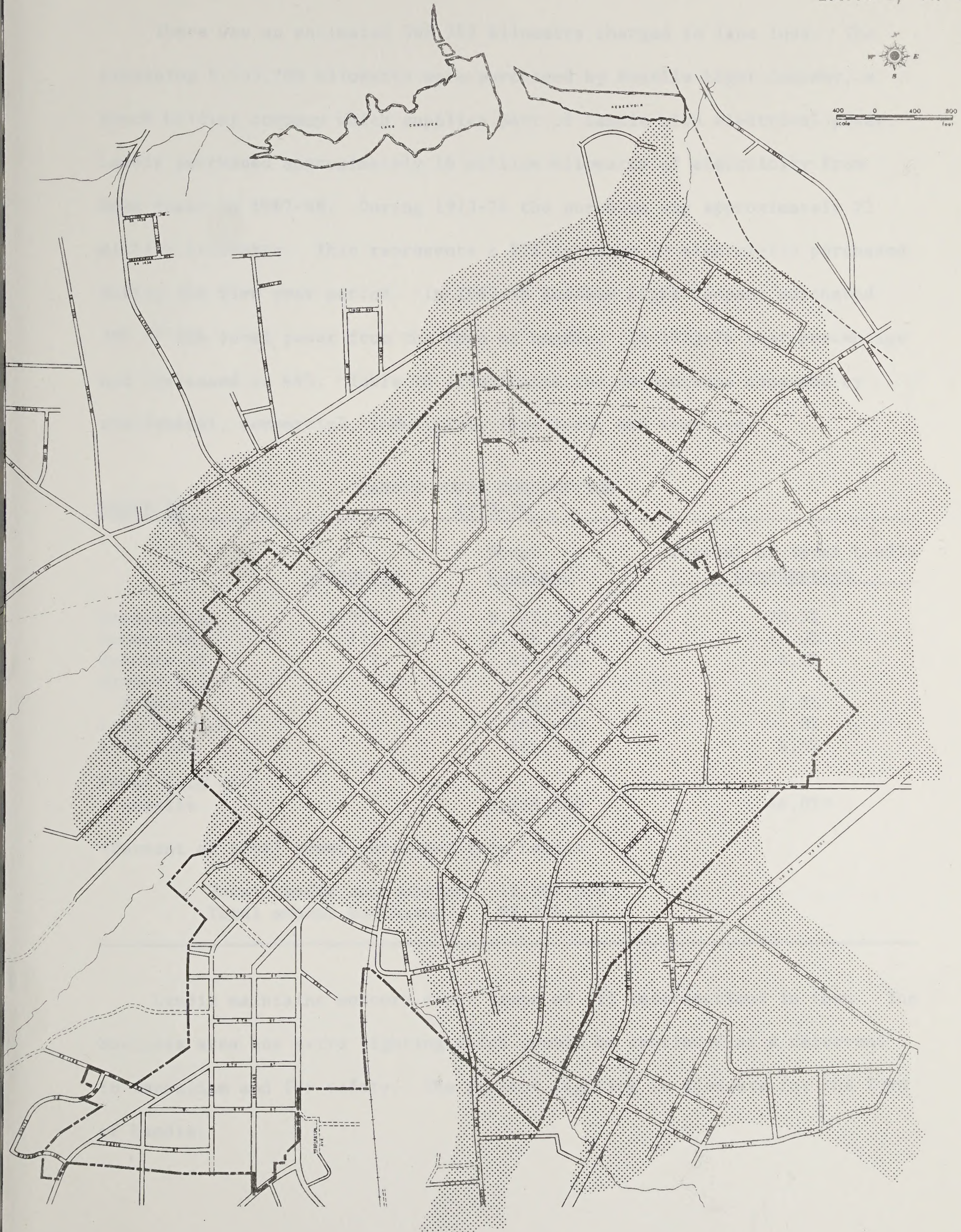
The Town of Landis operates a substation for electrical distribution at the intersection of South Chapel Street and East Rice Street. The Town of Landis in 1973-74 purchased 22,324,200 kilowatts of electric power from Duke Power. The 1,023 residential consumers used approximately 8,727,347 kilowatts, the 121 commercial users consumed 2,226,236 kilowatts, and the one industrial user consumed 471,120 kilowatts. There was an estimated 274,500 kilowatts used to provide lighting and other needs for the town streets and highways. Lift station consumption was estimated to be 101,440 kilowatts.

ELECTRICAL SERVICE AREAS

LANDIS, N. C.



400 0 400 800
Scale Feet



MAP-10

There was an estimated 568,357 kilowatts charged to line loss. The remaining 9,955,200 kilowatts were purchased by Roselle Light Company, a stock holding company which supplies part of Landis with electrical power. Landis purchased approximately 16 million kilowatts of electricity from Duke Power in 1967-68. During 1973-74 the purchase was approximately 22 million kilowatts. This represents a 27% increase in electricity purchased during the five year period. In 1967-68 Roselle Light Company purchased 38% of the total power from the Town of Landis. In 1973-74 that percentage had increased to 44%. Table 16 illustrates the percentages consumed by residential, commercial, industrial, line loss, and town use.

LANDIS POWER CONSUMPTION 1973-74			
TABLE 16			
	<u>Customers</u>	<u>Power Consumed</u>	<u>Percent of Total Landis Consumption</u>
Residential	1,023	8,727,347	70.5%
Commercial	121	2,226,236	18.0%
Industrial	1	471,120	4.0%
Street and Highway		274,500	2.2%
Lift Station		101,440	.8%
Line Loss		568,357	4.5%
Power Sold to Roselle		9,955,200	44.0%*
*Percent of total power purchased from Landis			
Total Landis consumption:		12,369,000	
Total amount purchased:		22,324,200	

Landis maintains mercury vapor lamps at all intersections in town. The business area has extra lighting which should be continued as a deterrent to vandalism and for safety. The present lighting is adequate for the Town of Landis.

Roselle Light Company

Roselle Light Company is a stock holder company located at the corner of Long and Chapel streets. The company employs three full time and one part time employees. The company has one line truck with hydraulic lift and two pickup trucks.

Improvements to the electrical system are made by private contractors. It is estimated that Roselle serves approximately 950 people. During 1973-74 Roselle Light Company purchased 9,955,200 kilowatts of electricity from Landis. This was a 6% increase from 1967-68. Roselle Light Company serves a section of Landis which was annexed in 1965.

Telephone Service

Telephone service for Landis is provided by the China Grove-Landis exchange of the Concord Telephone Company. The exchange building is located on Highway 29A north of Landis. In 1967-68 the Concord Telephone Company had 4,645 phones operating on this exchange. In 1974-75 that number had risen to 6,704 which represents a 30.7% increase in telephone use over a five year period.

Natural Gas

The Public Services Company of North Carolina serves the natural gas needs of the residents of Landis. The nearest office is located on North Oak Avenue in Kannapolis. There are approximately 53 miles of pipe line which service an estimated 2,273 homes in Landis and China Grove.

During 1967-68 there were approximately 500 homes in Landis served by this company.

Recommendations

- (1) Purchase a new dump truck.
- (2) Investigate alternative to recoup the 568,357 kilowatt line loss which is 4.5% of the total power consumed by Landis.
- (3) Have another study made in 1980 or when power consumption reaches the design load.
- (4) Establish a replacement program for the heavy equipment used by the electric department.
- (5) Construct a storage facility to accommodate the increasing amount of equipment the town is accumulating.

CHAPTER IX

ENVIRONMENTAL ASSESSMENT

During the past ten years, the American public has become increasingly interested in our environment, and we have all begun to realize that practically everything we do has some effect on the air we breathe, the water we drink, and the land upon which we live. The Environmental Assessment seeks to analyze the possible environmental effects, both beneficial and detrimental, with regard to the proposals and recommendations set forth in the Community Facilities plan. This section of the report will discuss the recommendations and proposals with respect to their possible influence on air and water quality, land resources, human resources, and the general ecology of the town.

Following is a listing and analysis of the possible environmental effects of recommendations set forth in the Community Facilities plan--if implemented.

Public Safety

Landis - possible new substation

Water System

Landis - improvements to water treatment plant

Sewer System

Landis - improve the existing sewer lines by grouting pipe to stop infiltration

Streets

Landis - improve street system and sidewalk system and provide for bicycle system in conjunction with these improvements

Public Works

Landis - construct a new vehicle storage shelter

Electrical Distribution

Landis - increase station capacity when needed

Recreation

Landis - cooperate with state and local officials in developing a regional park in South Rowan

Library

Landis - support the construction of South Rowan branch library of the Rowan County library system

Education

Landis - encourage the development of better educational facilities and equipment

Storm Drainage

Landis - improve existing drainage system through better maintenance of existing system, installation of additional storm sewers, and enforcement of Subdivision Regulations

These particular recommendations, if implemented, could have some environmental impact on the environment. However, these projects should not be fully evaluated until specific project planning and design occur.

There are two immediate concerns on adverse environmental effects. Those improvements which are not implemented could possibly alter the quality of life that now exists in Landis. If the facilities do not improve to accommodate the increase in future population, the residents' quality of life could deteriorate. However, if the facilities and additional land are provided, that in turn will permit additional development to occur. There are no alternatives at this time to the proposed recommendations in the Landis Community Facilities. However, if the suggested recommendations prove to be unsatisfactory, various alternatives must be formulated. The alternative of not implementing the Community Facilities plan would result in a piecemeal approach to community facilities improvements, thereby not getting the most benefit for the taxpayer's dollars.

The relationship between the short term use of man's environment and maintenance of long term productivity can be best summed up by emphasizing if the plan is implemented, it will insure that essential services will keep up with the rate of development within the planning period. Without such advanced planning, the long term adverse environmental impact on human resources would be significant.

The Landis Zoning Ordinance and proposed Subdivision Regulations can effectively mitigate many possible environmental concerns. Also, land banking as suggested in the park and recreation section should mitigate the potentially harmful effects of development.

There will be no irreversible commitments of resources. The conversion of vacant land for community facilities use will commit that land from its previous use or nonuse.

Applicable Federal, state and local environmental controls consist of the National Environmental Policy Act; General Statutes Chapter 113A, Environmental Policy Act; General Statutes Chapter 160A, General Planning Enabling Legislation; and local county health regulations, local zoning and subdivision regulations.

